

MEMO

TO: Energy and Environment Committee
FROM: Jeffrey Smith, Senior Regional Planner, (213) 236 1867, e-mail: smithj@scag.ca.gov
DATE: August 5, 2004
SUBJECT: Liquid Natural Gas (LNG) Facilities

Summary:

SCAG's Intergovernmental Review Section (IGR) is responsible for performing a consistency review for regionally significant local plans, projects and programs with policies of the Regional Comprehensive Plan and Guide and the Regional Transportation Plan. In September 2003, the IGR Section received a notice for the preparation of environmental documentation for a proposed liquid natural gas (LNG) terminal facility at the Port of Long Beach. At the request of the former Committee Chair, the Committee will receive a presentation on LNG facilities and the proposed project at the Port of Long Beach.

Background:

In September 2003, SCAG received a Notice of Intent to Prepare a Draft Environmental Impact Statement / Environmental Impact Report / Application Summary Report for the Long Beach LNG Import Project for review and comment. Staff determined that the proposed Project is regionally significant per SCAG mandates for regionally significant projects that directly relate to policies and strategies contained in the Regional Comprehensive Plan and Guide and Regional Transportation Plan (IGR Handbook, 1995). The proposed Project considers the construction and operation of a liquefied natural gas (LNG) import terminal facility on a 27-acre site on a portion of Pier T, designated Berth T-126, on Terminal Island within the Port of Long Beach, California. At this time, the Draft EIS/EIR has not been completed.

To gain a better understanding of LNG and LNG facilities, David L. Huard, Partner, Manatt, Phelps & Phillips, will present general information on LNG projects and applications. His article, "LNG Revisited" is attached.

Thomas E. Giles, Executive Vice President, Sound Energy Systems, will present the proposed Long Beach LNG Import Project.

Fiscal Impact:

The staff resources necessary for Intergovernmental Review are contained within the adopted Fiscal Year 2004 / 2005 SCAG Budget.

LNG REVISITED

By David L. Huard¹

Famous author and philosopher George Santayana once stated that "those who do not learn from history are doomed to repeat it." This verity is certainly applicable to the current evaluation of projects for the importation of liquefied natural gas ("LNG"). "Inside FERC" for February 2, 2004 lists approximately 41 proposed LNG projects in North America.² Some nine of these projects are designed to provide natural gas for the California and western markets.³ Several of these projects are located in Baja California and involve the importation by pipeline of natural gas that is received as LNG in terminals in Mexico.⁴ All of these projects are designed to meet what is estimated to be a shortfall of available natural gas for the growing United States market, particularly natural gas used for the generation of electricity.⁵ The supplies are also estimated to be cost competitive with natural gas which has seen a nearly doubling of wholesale prices within the last 12 to 24 months.⁶

The current wave of LNG applications and projects is eerily similar to the situation in the early to mid 1970s when a flurry of LNG projects were proposed.⁷ The circumstances under which the majority of the projects in the 1970s failed can provide guidance to decisionmakers, project proponents, and potential customers in evaluating the current numerous proposed projects. Further, assuming that the projected shortfall of natural gas supplies and the incumbent increase in natural gas prices come to be, the Nation, and indeed North America, cannot afford to lose supplies through repetition of miscalculations and errors that riddled the projects of the 1970s.

A. The Physical Process and Project Infrastructure

First, it is important to remember what each of these LNG projects proposes to do. In general, all involve the production of natural gas in a noncontiguous nation.⁸ Indeed, the traditional sources of LNG to the United States are Algeria and the Caribbean on the East Coast, and was anticipated to be

¹ Mr. Huard is a partner and co-chair of the Energy Practice Group of Manatt, Phelps & Phillips. Mr. Huard was directly involved in all LNG projects submitted to the Federal Energy Regulatory Commission in the 1970s.

² Jim Magill & Melanie Tatum, *LNG Projects Seen Offering Great Promise For US Markets, But Obstacles Stand in the Way*, INSIDE FERC, Feb. 2, 2004, at 10-11.

³ *Id.*

⁴ *Id.*

⁵ See Energy Information Administration, Market Trends – Oil and Natural Gas, *Annual Energy Outlook 2004 with Projections to 2025*, (Washington, D.C., Jan. 2004) [hereinafter Energy Information Agency, *Annual Energy Outlook 2004*]

⁶ Energy Information Administration, *Inquiry into August 2003 Gasoline Price Spike*, (Washington, D.C., Nov. 2003).

⁷ Of the many projects proposed in the 1970s, the following LNG projects were built in the United States:

1) ConocoPhillips and Marathon Oil project at Kenai, Alaska (1969); 2) Cabot LNG project at Everett, Massachusetts (1971); 3) Consolidated Natural Gas and Columbia Corp. project at Cove Point, Maryland (1978); and 4) El Paso Corp. project at Elba Island, Georgia (1978). See Energy Information Administration, *U.S. LNG Markets and Uses: June 2004 Update*, (Washington, D.C., Jan. 2004).

⁸ Magill & Tatum, *supra* note 2 at 10-11.

Indonesia and Alaska on the West Coast.⁹ To this group of potential exporters of natural gas, one must now add Australia, Nigeria and several other countries.¹⁰

The produced natural gas is moved through normal gathering and pipeline systems to a central point at an export terminal, called a "liquefaction" plant, where its temperature is cryogenically reduced ("frozen") to the point where the natural gas is approximately minus 240 degrees Fahrenheit. At such a temperature, the gas achieves liquid state, and takes up approximately 1/600th of the space of the natural gas in gaseous form. The liquefied natural gas is then loaded on to specially designed supertankers. The supertankers then transit various oceans of the world for delivery at a significant industrial complex referred to as a "regasification" facility, at which time the LNG is off-loaded from the tanker and allowed, in controlled circumstances, to be converted back to natural gas form. The gas in natural gas form is subsequently resold and transported through pipeline systems for eventual consumption within the receiving country.

Each of the three steps: liquefaction, ocean transportation, and gasification, are capital intensive, expensive operations involving significant time to construct and recover the capital investment through sales.¹¹

B. Need for LNG

In the 1970s, the United States faced what it thought was a shortage of natural gas. Natural gas was curtailed in many parts of the United States, restricting consumption by industrial customers. Prices were expected to rise astronomically if no new regulated supplies were found. This led to a flurry of applications for "special" projects including the Alaska Natural Gas Transportation System ("ANGTS" – which is again being considered), the Great Plains Coal Gasification Plant and numerous LNG projects.¹² As it turned out, the natural gas shortage in the 1970s was attributable to an artificial separation of the intrastate and interstate markets and federal price controls of natural gas. Once these constraints were lifted, natural gas exploration and development provided what was first referred to as a gas bubble, and then a gas sausage, which resulted in nearly flat (nominal) dollar prices of natural gas for the next 25 years.¹³

The "bubble" has burst and natural gas now trades at nearly double (\$6.00) historic averages. Further, new production spurred by removal of price and market impediments by the Natural Gas Policy

⁹ See Shauna O'Donnell, *Global Politics A Wild Card in Evolving LNG Trade*, California Energy Markets, No. 764 at 4-5 (Mar. 26, 2004) [hereinafter: O'Donnell, *Global Politics*]; Energy Information Administration, *The Global Liquefied Natural Gas Market: Status and Outlook*, (Washington, D.C., Dec. 2003).

¹⁰ *Id.*; O'Donnell, *supra* note 9 at 4-5.

¹¹ See generally Energy Information Administration, U.S. LNG Markets and Uses: June 2004 Update, (Washington, D.C. June 2004).

¹² See Alaska Natural Gas Transportation Act, 15 U.S.C § 719 (2004); SENATE COMM. ON ENERGY AND NATURAL RESOURCES, *Alaska Natural Gas Transportation Act*, Staff Report of the Federal Regulatory Energy Commission, (Jan. 18, 2001); U.S. Department of Energy, Office of Fossil Energy, Pioneering Gasification Plants, *available at* <http://www.fe.doe.gov/programs/powersystems/gasification/gasificationpioneer.shtml>.

¹³ The term "gas bubble" refers to excessive supplies causing flat prices for a short period of time. When flat prices exist over a longer period of time, this period is often referred to as a gas sausage.

Act, have not increased to meet market growth.¹⁴ Thus, the artificial shortage of the 1970s may be a real shortage by 2010.¹⁵

C. Project Issues

In the 1970s, the applicants for LNG terminals were generally related to natural gas distribution companies or pipeline companies as the natural gas market was yet to unbundle under FERC Order Nos. 436 and 636,¹⁶ and then under state unbundling orders.¹⁷ As an example, the major project for importing LNG into California was a consortium of the parent companies of what is now Sempra Energy and Pacific Gas & Electric Company. The source of supplies for that project were Alaska and Indonesia.

The applications for these projects in the 1970s were not greeted with significant enthusiasm. Indeed, they were by and large generally opposed even though the natural gas market at that time was experiencing physical curtailments of supply. The issues associated with these projects fell into approximately seven categories.

(1) State/Federal Jurisdiction. The jurisdiction over the regasification facilities, the pipelines to take the natural gas away from such facilities, and even the importation and transit of the natural gas to the regasification facility were subject to significant fights between state and federal authorities. In particular, California exerted as much jurisdiction as it could over facilities that were proposed to be constructed on the California coast to regasify natural gas imported for consumption in the California market.¹⁸

This turf battle has been resumed, as to current projects, as exemplified by recent FERC orders and CPUC investigations.¹⁹ The California Public Utility Commission has again challenged the FERC concerning jurisdiction over at least one of the proposed LNG facilities (Sound Energy Solutions, Inc.) and has instituted its own investigation into that application to construct and operate a LNG terminal

¹⁴ Natural Gas Policy Act of 1978, 15 U.S.C. § 3301 *et seq.* (2004)

¹⁵ See Energy Information Administration, *Annual Energy Outlook 2004*.

¹⁶ Order No. 436, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 30 Fed. Reg. 42,408 (Oct. 18, 1985) (codified in scattered sections of 19 C.F.R.) [hereinafter Order No. 436]; Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations, and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, [Current] 57 Fed. Reg. 13,267, 13,276 (Apr. 16, 1992) (subsequent history omitted) [hereinafter Order No. 636].

¹⁷ Prior to deregulation of the energy industry, bundled service was the norm. A bundled service refers to energy provision in which all needed services are provided as a single package, usually by a single provider who provides a single invoice. Now, federal and state agencies require public utility services to 1) separate services into components, 2) establish rates for each component, and 3) provide consumers a choice of which services they purchased. Customers no longer pay for a group of services represented as a single service. Instead they pay for a multitude of services (energy generation, transmission, distribution, and perhaps many more depending on how energy is billed in a given region), all of which are required for electrical service. For example, California designed a comprehensive unbundling policy in 1986 and completely rewrote it only five years later. See *In re Regulatory Framework for Gas Util.*, 79 P.U.R.4th 1 (Cal. Pub. Util. Comm'n 1986).

¹⁸ See *In re Port of Long Beach*, 2004 WL 1047645, Cal. P.U.C., Apr 27, 2004, (No. 1.04-04-024).

¹⁹ See *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609, (F.E.R.C. Mar. 24, 2004) Commission Opinions, Orders and Notices (No. CP04-58-000); see also *In re Port of Long Beach*, 2004 WL 1047645, Cal. P.U.C., Apr 27, 2004, (No. 1.04-04-024).

at the Port of Long Beach.²⁰ FERC Commissioner Keliher is quoted as saying the biggest threat to LNG projects is not local opposition but California's jurisdictional challenge.²¹

The jurisdictional struggle between the California Public Utilities Commission (CPUC) and the Federal Energy Regulatory Commission (FERC) fundamentally concerns the primary, or even exclusive, authority over the siting and operation of the regasification facility. Authority over matters outside state waters and even to the shore are generally assumed within FERC control.²² Downstream of the plant, the CPUC reigns supreme.²³

The CPUC argument for jurisdiction is based on three premises.²⁴ First, following importation to a California location, the natural gas will be regasified, transported and sold exclusively in the California intrastate market.²⁵ Second, the State points to cases where FERC jurisdiction concerning imports (section 3 of the Natural Gas Act) did not trigger its comprehensive facility certification authority (section 7) under somewhat comparable facts (pipeline exports to Mexico from southern California).²⁶ In effect, the CPUC argues that while the project has "international" implications, it has no "interstate commerce" implications. The result would limit FERC authority to the border crossing point. Third, the CPUC points out that in previous applications to the FERC for LNG facilities to serve California, the State and FERC shared responsibility and worked cooperatively; with the FERC even deferring in part to state legislation compelling remote siting.²⁷ (Pacific Alaska LNG).

The FERC response, however, was to exert "exclusive" jurisdiction over the siting and operation of the regasification facility – referred to in the order as the "import terminal".²⁸ The nomenclature is important as the name used by the FERC is clearly chosen to refer to an area where it has undeniable primary jurisdiction. The FERC also cites to orders which affirmed its jurisdiction over the siting, construction and operation of all import and export facilities, including LNG, under the Energy

²⁰ See *In re Port of Long Beach*, 2004 WL 1047645.

²¹ See Foster Natural Gas Report, (May 27, 2004).

²² See Sections 4(e), 9(a)(2), and 10(a)(1) of the Federal Power Act, 16 U.S.C. § 791 *et seq.*

²³ The State Board and the Regional Boards regulate the discharge of harmful substances to surface waters including wetlands under the federal Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). See Section 401, of the Clean Water Act, 33 U.S.C. 1341 (2004); Porter-Cologne Act, 3 Cal. Water Code §13100 *et seq.*; see also Section 27 of the Federal Power Act, 16 U.S.C. § 791 *et seq.* Section 27 of the Federal Power Act reserves state jurisdiction over "proprietary" water rights; see also *San Diego Gas and Electric Co.* Superior Court, 13 Cal. 4th 893, 924-25. (1996).

²⁴ See *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609 at *1-*2; see *In re Port of Long Beach*, 2004 WL 1047645 at *5-7.

²⁵ See *id.*; see *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609 at *1-*2.

²⁶ *Border Pipe Line Co. v. FPC*, 171 F.2d 149, 151 (D.C. Cir. 1948) (A Texas company operating gas pipe line, which sold gas to Mexico for consumer use, was not subject to the Natural Gas Act because the court held that "interstate commerce" does not include foreign commerce. The company was not required to have a certificate of public convenience and necessity.)

²⁷ The CPUC notes that in the 1970s, the last time LNG import facilities were proposed for the coast of California, the Commission and the CPUC conducted concurrent evidentiary hearings on seismic issues and proposes the two agencies similarly cooperate in considering the issues raised by the SES proposal. See *Pacific Alaska LNG Company*, 15 FERC P. 61,087 (F.E.R.C. April 28, 1981) Commission Opinions, Orders and Notices. (No. CP75-140).

²⁸ *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609 at *1-*2.

Policy Act of 1992.²⁹ The FERC orders read like a primer on preemption of state regulation of energy companies by the FERC, including environmental, safety, and market power concerns.³⁰

While the FERC states its expectation that the CPUC will "participate" in the process,³¹ it clearly intends to exclude the CPUC from a decisionmaking role. The line in the sand has been drawn. Based on the CPUC history in state/federal matters, an appeal and further litigation is sure to follow.

(2) Organized Opposition. By far the largest reason for delay in the projects in most of the United States in the 1970s was the opposition of local resident groups. In California, opposition of local groups caused the facility originally proposed for Los Angeles Harbor to be moved first to Oxnard and then to a remote location on the central California coast called Point Concepción.³² Even at that remote location, dictated by state legislation, a well-funded local resident group actively participated in state and federal proceedings evaluating the applications.

Recently, local groups in California have begun to voice opposition to projects to be sited in their area, or even those nearby. Local opposition to the Humboldt LNG Terminal proposed by Calpine forced the company to abandon the project.³³ On May 24, 2004, the City Council of the City of Malibu, California, passed a resolution opposing two massive liquefied natural gas projects in the Santa Barbara channel, echoing similar protest by cities near other proposed LNG facilities.³⁴

One project proposes a "deep sea" floating terminal with pipeline connection onshore, in greater part to limit local opposition.³⁵ However, local moratoriums on pipeline construction from offshore, safety concerns and jurisdictional challenges would not be resolved by such a plan. With regard to this proposal, Ventura County supervisors have called on state and federal authorities to better coordinate policies.³⁶

Just as civil society generally is finding a voice in these decisions, foreign governments play a major role in LNG pipeline development. Just as a growing outcry from groups over the environmental and safety risks associated with the LNG terminals block such plans, foreign governments require LNG developers to complete a complex and lengthy application process. In some

²⁹ *Id.* at *7; Energy Policy Act of 1992 (Pub. L. 102-486, Oct. 24, 1992, 106 Stat. 2776) (codified as amended in scattered sections of 2, 11, 15, 16, 25, 26, 30, 31, 33, 38, 40, and 42 U.S.C.).

³⁰ See *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609 at *7.

³¹ *Id.* at *8. (F.E.R.C. states that "the [California Public Utilities] Commission will be the lead agency in conducting National Environmental Policy Act (NEPA) review and be responsible for preparing the environmental analysis of new project proposals.")

³² Western LNG Terminal Company, 54 F.P.C. 1228, 1975 WL 14475, F.P.C., Sep 15, 1975, (NO. CP75-83, CP75-83-1, CP75-83-2, CP75-83-3). In 1974 Western LNG Terminal Company proposed to construct and operate three liquefied natural gas terminals on the California shoreline at Oxnard, Point Concepción, and Los Angeles.

³³ Cassandra Sweet, *Local Opposition Forces Calpine to Bag Plans for Humboldt LNG Terminal*, California Energy Markets, No. 763 (Mar. 19, 2004).

³⁴ City of Malibu, Res. No. 04-32, Adopted May 24, 2004

³⁵ Eric Johnston, *BHP Billiton Faces California Opposition To LNG Plan*, DOW JONES NEWSWIRES, May 27, 2004, at <http://smartmoney.com/news/on/index.cfm?story=ON-20040527-000251-0501>; *Ventura County Criticizes Off-Shore Gas Plant Policies*, L.A. TIMES, Apr. 7, 2004, at B3.

³⁶ *Ventura County Criticizes Off-Shore Gas Plant Policies*, L.A. TIMES, Apr. 7, 2004, at B3.

cases, foreign leaders have directly challenged proposed projects, arguing that that such projects would violate their sovereignty and compromise its national security.³⁷

(3) Safety. LNG has had a particularly safe record in its operations on the East Coast, as well as in most foreign countries.³⁸ There have been few accidents associated with LNG.³⁹ Unfortunately, in the public's eye, LNG has been confused with liquid petroleum gases, propane, butane and a variety of other less regulated commodities which have had an unfortunate safety history. The LNG projects of the 1970s were subject to significant scrutiny by the United States Department of Transportation, the United States Coast Guard and others.

In the last 25 years, the evaluation of safety associated with LNG as well as LNG technology itself have improved dramatically. However, as reported in the California Energy Markets of May 21, 2004, in a study commissioned by the Federal Energy Regulatory Commission, the consulting group found "a dearth of real world experience with large-scale spills of liquefied natural gas make it difficult to predict the consequences of a major release of LNG on water."⁴⁰ Thus, despite what appears to be a significant history of safe delivery of a product, the safety concerns of 25 years ago continue to haunt the industry. Indeed, a Los Angeles Times article of June 14, 2004, on the future of LNG, highlights concerns over safety.⁴¹

(4) Reliability. A principal question associated with LNG now and then is whether the supplier of natural gas would allow for reliable and continuous delivery without attempts to manipulate the market and drive prices up. The Energy Minister for the Province of Alberta, Murray Smith, in a recent speech to the Western Chapter of the Energy Bar Association in San Francisco, referred to the flurry of LNG projects and the rise of few potential dominant LNG exporters, otherwise referred to as "GasPEC." This sentiment is often expressed within the United States as well.⁴²

During the 1970s, various projects for importation of natural gas from Algeria were put on hold or cancelled due to changes in leaders in that country. There is still a concern that the exporting country will fail to liquefy, or the owners of the product will fail to deliver to the proposed destination, if opportunity for greater profits arises by either delaying delivery or delivering to another location.

While this is an unfortunate reality of the international market, it is no different than the oil trade or trade in other commodities in which imports compete with domestic production in the United States market that consumes more than the domestic producers can deliver.

³⁷ For example, Mexican leaders of the former ruling party, the Institutional Revolutionary Party, or PRI, and the Party of the Democratic Revolution, or PRD, are opposing ChevronTexaco's plan to put a floating LNG receiving terminal next to the Coronado Islands. See Diane Lindquist, *Mexico's Opposition Parties Criticize Plan For Terminals Off Baja*, UNION-TRIBUNE, (Apr. 7, 2004).

³⁸ U.S. Department of Energy, Office of Fossil Energy, *How Safe is LNG?*, available at <http://www.fe.doe.gov/features/lng/howsafeisit.html>; see H.H. West & M.S. Mannan, M.S. Texas A&M: *LNG Safety Practice and Regulation: From 1944 East Ohio to Today's Safety Record*, AIChE Meeting, April 2001; see also Don Juckett, U.S. Department of Energy, *Properties of LNG*, LNG Workshop, MD, 2002.

³⁹ *Id.*

⁴⁰ Shauna O'Donnell, *Ferc Issues LNG-Spills Study; Wood Responds to California AG*, California Energy Markets, No. 772 (May 21, 2004).

⁴¹ Deborah Schoch, *Liquid Gas Continues to Fuel Debate*, L.A. TIMES, June 14, 2004, at B1.

⁴² *Id.* at 5; see also Kristen Nelson, *The Deal Of Last Resort*, PETROLEUM NEWS, Vol. 9, No. 24, June 13, 2004.

Imports of LNG into Mexico are also subject to a further question associated with long-term availability. The Mexican government has required that the LNG brought into Baja California be dedicated first to the Mexican market and secondarily to export to the United States.⁴³ While there is currently no major Mexican load competing for the natural gas imported into Baja California, if Mexico develops a significant infrastructure or electric generation utilizing imported LNG, the natural gas from the projects in Baja may not be available for consumption within the United States.⁴⁴

(5) Infrastructure. Obviously, the natural gas pipeline system in the United States was designed to receive large amounts of natural gas at producing areas within Canada and the United States for delivery to end use customers. Because no new supplies of LNG are added as supplies are withdrawn from the pipeline, the size of the delivery system reduces in size in order to maintain the necessary delivery pressure. Therefore, the big end of the pipe is at the producing area and the small end of the pipe is at the consuming area.

However, LNG facilities are proposed for location near to points of consumption.⁴⁵ As an example, Sound Energy and others propose location of LNG regasification terminals near to the major southern California market.⁴⁶ The location for the facilities are not complementary to the design of the take-away system and would require significant investment in new plant. This pipeline, which would be operated by either interstate pipelines or local distribution systems, would be regulated by the Federal Energy Regulatory Commission or, as in the case in California, by the California Public Utilities Commission, presumably.⁴⁷

Thus, even if the regasification facility itself is spared overlapping jurisdiction, the take-away system may not be.

(6) Environmental. It is obvious that a regasification facility is a major industrial complex with large storage tanks and pipe system. It is also obvious that these facilities have to be located at or near the coast to receive super tankers which would transport the LNG from the point of origination. These facilities are not pretty -- other than to a very limited number of engineers. The tendency in the United States towards "nimby" (not in my backyard) and "banana" (build absolutely nothing anywhere near anyone) or even "nope" (nowhere on planet earth) are all active considerations in the minds of people considering the construction of these facilities.⁴⁸ In the 1970s, environmentalists and the concerns associated with related environmental degradation of these facilities (including "scenic" degradation) extensively delayed and caused significant additional costs to project proponents.

⁴³ O'Donnell, *supra* note 39 at 5.

⁴⁴ Kazuo Nishigoori, *Recent Trends in LNG Receiving Terminal Projects On the West Coast of North America*, The Institute of Electrical Engineers of Japan (Dec. 2003).

⁴⁵ Magill & Tatum, *supra* note 2 at 10-11.

⁴⁶ The following projects for Southern California include: 1) Long Beach Harbor proposed by Sound Energy Solutions, 2) Crystal Clearwater Port, proposed by Crystal Energy, Offshore, CA 3) Cabrillo Deepwater Port, proposed by BHP Billiton, Offshore, CA, and 4) Port Penguin LNG Terminal proposed by Chevron Texaco (location and capacity to be determined.)

⁴⁷ See *Sound Energy Solutions*, 106 F.E.R.C. P61,279, 2004 WL 595609.

⁴⁸ See Energy Information Administration, U.S. Natural Gas Markets: Mid-Term Prospects for Natural Gas Supply, Chapter 3 (Washington, D.C., Jan. 2004); see also Sweet, *supra* note 32.

Additionally, some legislators worry that LNG imports from places like Mexico do not adhere to the same environmental standards required by the United States. For example, members of Congress proposed a bill that would prohibit the importation of electricity from Mexico if it were produced by power plants located near the U.S. border that did not comply with U.S. air quality control requirements.⁴⁹ Although this bill was never enacted into law, U.S. leaders continue to push for legislation that requires border power plants to comply with federal and state standards.⁵⁰

(7) Security. In these days of "post-911" concerns, allowing the United States to rely on significant quantities of natural gas which are imported by way of supertanker to a single large-scale facility raises issues of security.⁵¹ Clearly, an interstate natural gas system which is subject to a terrorist attack may be quickly repaired or the supply rerouted due to the nature of the facilities, as has been shown with oil pipeline systems in Iraq.

However, a major terrorist attack on a LNG facility, as with an electric generation facility or a nuclear facility, could remove that supply from the market for an extended period of time. Further, as the supply is imported in a massive tanker, such a supertanker provides a tempting target.⁵² If the LNG is imported from a non-OPEC member, such as Australia, it would seem that the supply provides an even more tempting target for terrorists who are supported in part by some factions in OPEC or oil-producing nations.

(8) Price. LNG is almost, by definition, more expensive than traditional supplies to produce. As discussed above, LNG would require pipeline systems in the exporting nation, large liquefaction facilities in the exporting nation, a significant investment in supertankers for transportation, significant regasification facilities within the United States or North America, and significant infrastructure improvements to accommodate the delivery of large quantities of gas received at a new location.

Meanwhile, traditional North American producing areas access a fairly well developed, and in some instances, nearly depreciated, interstate natural gas transportation system. Thus, the margin for LNG is significantly lower than the margin for North American onshore production.

In a book published in 1979, entitled Energy Future, by Robert Stobaugh and Daniel Yergin, the authors anticipated prices of natural gas approaching \$10.00 a thousand cubic feet ("Mcf") (approximately \$10.00 an MMBtu) and the need for significant alternative supplies of natural gas.⁵³ They call the chapter on natural gas "How To Slice The Shrinking Pie." When the market changed such that

⁴⁹ In the House, Representative Filner introduced the Air Basic Clean Act of 2002. See H.R. 5038, 107th Cong. (2002). In the Senate, Senator Feinstein introduced the Southern Border Air Quality Protection Act. See S.2588, 107th Cong. (2002).

⁵⁰ See Statement by Senator Dianne Feinstein on InterGen's Plans to Install Emissions Controls on Border Power Plant, Jan. 28, 2003, available at <http://www.senate.gov/~feinstein/03Releases/r-intergen4p.htm>.

⁵¹ Magill & Tatum, *supra* note 2 at 9, 12.

⁵² See *id.*; Gal Luft and Anne Korin, *Terror's Next Target*, J. OF INT. SECURITY AFFAIRS, December 2003.

⁵³ ROBERT STOBAUGH & DANIEL YERGIN, *ENERGY FUTURE: REPORT OF THE ENERGY PROJECT AT THE HARVARD BUSINESS SCHOOL* 56-78 (1979).

natural gas became plentiful and relatively inexpensive, new LNG projects were cancelled and old LNG projects were temporarily mothballed, in one instance for over 20 years.⁵⁴

Price considerations for LNG are twofold⁵⁵: (A) LNG must be priced competitively with domestic supplies, but at a high enough price level to provide a reasonable net back margin to the producers. And, (B) the price achieved for sales of LNG in the North American market must be equal to or greater than the net margin to be achieved for LNG sales into other markets.

Today's approximate price to deliver gas to the California border (\$6.00 an MMBtu) compares to a price of approximately \$3.00 an MMBtu that continued for most of the third quarter of the 20th Century.⁵⁶ At such rates, the North American gas market is attractive to potential LNG exporters. If that price falls, the suppliers may not wish to continue the investment of liquefying and transporting their production to the North American market and may shut in wells. Therefore, to support a robust LNG market in North America, North American natural gas prices must maintain their current level, or even increase.

Now we must fast forward 30 years. The issues raised in the 1970s, as discussed above, are the issues that are being raised today. However, there are significant differences as well.

While all the applicants in the 1970s were related to interstate natural gas pipelines or distribution companies, most of the recent applicants are related to producers of natural gas or operators of LNG terminals in other locations. One major exception is Sempra Energy. Sempra, the parent company of Southern California Gas Company (the largest natural gas distribution company in the United States) and San Diego Gas & Electric Company, is the successful applicant for a project in Baja California.⁵⁷

The differentiation of the intrastate and interstate markets has been eliminated, price controls on the first sale of natural gas have been removed by the Natural Gas Wellhead Deregulation Act, and the North American Free Trade Agreement (NAFTA) provides for a significant and robust trade in energy between Canada, the United States and Mexico.⁵⁸

⁵⁴ Under FERC's supervision, Dominion Resources Inc. is restarting Cove Point, Maryland, which was built in 1974 and mothballed in 1980 due to falling natural gas prices. *See* Dominion Cove Point LNG, LP, 104 FERC P 61,218, 2003 WL 21999893, F.E.R.C., Aug 22, 2003, (NO. RP03-552-000).

⁵⁵ *See* Energy Information Administration, *The Expanding Role of LNG in North American Gas Supply: A Challenge To Gas Supply Modeling*, Annual Energy Outlook Conference (Washington, D.C., Mar. 23, 2004); *see also* Energy Information Administration, *Annual Energy Outlook 2004*.

⁵⁶ *Id.*

⁵⁷ Energía Costa Azul is the first LNG project in Baja California to receive all key approvals and it would be the first new West Coast LNG facility constructed in North America. Energía Costa Azul, a joint project with Shell, located north of Ensenada, Baja California, Mexico, would process 1.0 Bcf a day.

⁵⁸ Natural Gas Wellhead Decontrol Act of 1989, Pub. L. No. 101-60, § 1, 103 Stat. 157 (1989) (amending scattered sections of 15 U.S.C. §§ 3301-3432 (1994)); NAFTA, 19 U.S.C. § 3301 *et seq.*

D. Possible Solutions

What can we do to expeditiously evaluate projects, allow them to be constructed within a reasonable period of time and provide for development of only those projects necessary to meet market needs?

(1) Mandate a Cooperative, Streamlined Regulatory Process

One major impediment in the 1970s to project approval and implementation was protracted regulatory proceedings in which all seven issues were widely debated.⁵⁹ The FERC, since the 1970s, has significantly streamlined its evaluation processes to the point where nearly all applications are reviewed and approved within a short period of time. However, the FERC now relies upon market forces to determine which projects are eventually constructed. The processes in state agencies, such as the CPUC, are considerably less expedited in that they provide for nearly unlimited input from local concerns. The state and federal agencies need to work out protocols, as there are obvious areas of jurisdiction and appropriate roles for both, and a need for cooperation between the two to avoid having all projects killed through a "paralysis by analysis" process.

(2) Issue Federal Energy Policy Guidance on Natural Gas

The federal government needs to specifically state that LNG is a safe and reliable product. The United States Department of Energy needs to develop a coherent policy addressing the importation by land, importation by sea, or domestic production incentives and evaluation – in effect, develop a "natural gas policy." This step may require nothing more than a FERC or DOE pronouncement.

(3) Develop Criteria for Facility Siting

As with recent moves towards the siting of transmission and electric generation, state and federal agencies need to provide criteria associated with the location of LNG facilities. The FERC should consider a mandated, advance consultation process with local interests and regulators as has been recently implemented for hydro-electric licensing. While this may not eliminate local opposition, it could satisfy or limit such opposition and define concerns in a manner that may allow for constructive solutions. Indeed, the FERC Office of Energy Projects is considering various options to coordinate and accelerate project review. However, issuing advance planning criteria concerning siting, design and safety concerns would significantly aid the process.

(4) Allow Timely Market Commitments

Most importantly, states need to allow major consumers of natural gas and electricity to make decisions concerning the supplies that they consume. The unbundling of the natural gas market, initiated many years ago by the FERC, has proven to be a resounding success. While unbundling of the electric market has had its successes and failures, the history of unbundling in the electric market is not sufficiently long to show that the electric market should be treated any differently than the natural gas

⁵⁹ For a brief summary on the federal application process for new U.S. LNG facilities, see Energy Information Administration, *U.S. LNG Markets and Uses: June 2004 Update* at 9.


market. Indeed, the electric market may be more in need of a "core/non-core" division than the natural gas market.

If such customer choice is allowed, projects, such as the many LNG projects competing for deliveries of natural gas into the North American market, will have the potential to sign long-term contracts with end use customers, in addition to local distribution companies that currently dominate the natural gas and electric generation markets. If multiple customer choice becomes the market paradigm, rather than a single monopoly consumer, the market may well be able to determine if LNG projects are truly economic and desired. Clearly, without such customer choice, any project may be stifled by an inability to sign contracts to gauge the needs for these projects.

(5) Legislation May Not Be a Panacea


The complexity of issues and the magnitude of the situation that these projects address, leads some to argue that legislation is necessary. In contemplating legislation, one must always be concerned with the time necessary to pass and implement such legislation. Very limited legislation, such as finally resolving the state/federal jurisdiction squabble may be needed and effective. Comprehensive legislation could prove time consuming and contentious to such an extent that it could itself doom projects awaiting the legislation.

I end where I began. As Mr. Santayana said, if we do not learn from what we have lived through, we are doomed to repeat the same mistakes. We made many mistakes in the 1970s. Let us hope that if all projections of future shortages of natural gas and higher prices are true, that we do not repeat those same mistakes this time.




LNG REVISITED

Presentation by David L. Huard,
Manatt, Phelps & Phillips, LLP,
To Southern California Association of
Governments,
August 5, 2004



A. History of LNG:

- In the 1970's, the United States faced a gas "shortage." As the price of natural gas rose and consumption was restricted, numerous LNG projects were proposed.
- Once artificial market segmentation and price controls were lifted, natural gas exploration and drilling expanded and prices were nearly flat for the next 25 years. These changes diminished the attractiveness of LNG.
- Over the past few years, LNG imports have rebounded. The increase is attributed to increasing gas demand and rising prices in the United States, and declining prices for imported LNG.
- Today, there are approximately 41 proposed LNG projects in North America. Nine of these projects are designed to provide natural gas for the California and western markets.



B. Physical Process Of LNG -- LNG projects are capital intensive, time consuming, and involve five steps:

1. Production and Gathering in the Exporting Country
2. Liquefaction in the Country of Origin
3. Ocean Transportation
4. Re-Gasification in the Importing Country
5. Pipeline Transportation to Markets

C. Need for LNG:

- Today, natural gas trades at nearly double recent historic averages.
- The recent wave of LNG projects is designed to offset an estimated shortfall of available natural gas for the growing United States market.

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1. State v. Federal Jurisdiction:

- The turf battle between the FERC and state public utility agencies has resumed.
 - FERC wants to exert "exclusive jurisdiction" over the proposed siting and operation of regasification facilities.
 - The CPUC is trying to limit the FERC's authority.

2. Organized oppositions:

- Environmental and civic groups voice opposition to LNG projects. (NIMBY)
- Foreign political groups are playing a larger role in LNG Projects.
 - For example, Mexican political groups have publicly opposed the ChevronTexaco Project on Coronado Island.

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3. Safety:

- Safety concerns among the general public haunt the industry.
- In the last 25 years, an evaluation of LNG safety has improved dramatically.
- There is a significant history of safe delivery of LNG.

4. Reliability:

- LNG presents concerns about suppliers' manipulation of markets to drive up prices.
- Long-term availability of LNG imports initially into Mexico are also subject to question.

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5. Infrastructure:

- LNG facilities are proposed for locations near to markets.
- Some LNG terminal locations do not complement the take-away system designs and require significant investment in new plants.

6. Environmental:

- NIMBYism and concerns about environmental degradation can cause extensive delay and add significant additional costs for project proponents.

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7. Security:

- Post-911 concerns about terrorists attacks on supertankers or LNG facilities.

8. Price:

- LNG is expensive to produce because it is capital intensive and time consuming.
- Price considerations for LNG are twofold:
 - LNG must be priced competitively with domestic supplies, but at a high enough price level to provide a reasonable net back margin to the producers.
 - The price achieved for LNG sales in the North American market must be equal to or greater than the net margin to be achieved for LNG sales into other markets.

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1. Mandate a Cooperative, Streamlined Regulatory Process

2. Issue Federal Energy Policy Guidance on Natural Gas

3. Develop Criteria for Facility Siting

4. Allow Timely Market Commitments

5. Legislation May Not Be a Panacea

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